What is claimed is:

1. A method for monitoring electron charge effect occurring during semiconductor processing, comprising the steps of:

providing a substrate, a layer of n-type conductivity having been created in the surface of said substrate;

creating a first pattern of Local Oxidation of Silicon (LOCOS) regions in the surface of said substrate, said first pattern of LOCOS being interspersed with exposed surface regions of said substrate;

etching said exposed surface regions of said substrate using said first pattern of LOCOS regions as a hard mask, creating a first pattern of elevated LOCOS regions, creating trenches having inside surfaces in the surface of said substrate;

creating a layer of interlayer oxide over the surface of said first pattern of LOCOS regions and said inside surfaces of said trenches created in the surface of said substrate;

depositing a layer of polysilicon over the surface of said layer of interlayer oxide;

patterning and etching said layer of polysilicon, creating a second pattern of polysilicon, the surface of said second pattern of polysilicon comprising at least one contact point over the surface of said substrate, completing creation of a electron charge monitoring device having a surface;

providing a semiconductor processing tool, said semiconductor processing tool being designated as being a tool being evaluated for electron charge effect of a process being performed by said tool;

positioning said substrate comprising said electron charge monitoring device inside said processing tool in a location and a position being identical with a position and location being occupied by a substrate being processed by said tool;

establishing processing conditions of a process as these processing conditions apply for said process and said tool;

exposing the surface of said electron charge monitoring device to said established processing conditions for a period of time having a measurable duration;

terminating said processing conditions;

removing said electron charge monitoring device from said semiconductor processing tool; and

measuring a voltage required to induce a current between said layer of polysilicon and the surface of said substrate.

2. The method of claim 1, said creating a first pattern of Local Oxidation of Silicon (LOCOS) regions in the surface of said substrate comprising the steps of:

depositing a layer of silicon nitride over the surface of said substrate;

patterning and etching said layer of silicon nitride, creating a mask of silicon nitride over the surface of said substrate, elements of said mask being interspersed with exposed surface regions of said substrate;

creating layers of Local Oxidation of Silicon (LOCOS) in said exposed surface regions of said substrate; and

removing said mask of silicon nitride from the surface of said substrate.

3. The method of claim 1, said layer of interlayer oxide being selected from the group consisting of HTO and dry oxide and wet oxide.

4. The method of claim 1, said layer of interlayer oxide being created to a thickness between about 80 and 300 Angstrom.

5. The method of claim 1, said layer of polysilicon being deposited to a thickness within the range of between 1,500 and 6,000 Angstrom.

6. The method of claim 1, said second pattern of polysilicon comprising a square, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising arrays of LOCOS regions

perpendicularly and outwardly extending from each side of said square of said second pattern of polysilicon.

7. The method of claim 1, said second pattern of polysilicon comprising a square, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising arrays of LOCOS regions perpendicularly and inwardly extending from each side of said square of said second pattern of polysilicon.

8. The method of claim 1, said second pattern of polysilicon comprising a square, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising one LOCOS region located at intersection of diagonals of said square of said second pattern of polysilicon.

9. The method of claim 1, said second pattern of polysilicon comprising a square, said second patter of polysilicon further comprising a multiplicity of linear patterns of polysilicon perpendicularly and outwardly extending from each side of said square of said second pattern of polysilicon, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising arrays of LOCOS regions perpendicularly and inwardly extending from each side of said square of said second pattern of polysilicon.

10. The method of claim 1, said second pattern of polysilicon comprising a square, said second patter of polysilicon further comprising a multiplicity of linear patterns of polysilicon perpendicularly and outwardly extending from each side of said square of said second pattern of polysilicon, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising one LOCOS region located at intersection of diagonals of said square of said second pattern of polysilicon.

11. The method of claim 10, with an additional step of applying a thermal anneal to said substrate, thereby applying a thermal anneal to said electron charge monitoring device having been created in and on the surface of said substrate, thereby enabling recycling of said substrate and the therein and thereover created electron charge monitoring device.

12. The method of claim 1, said current induced between said layer of polysilicon and the surface of said substrate being 0.1 μA.

13. A method of creating an electron charge effect monitoring device, comprising the steps of:

providing a substrate, a layer of n-type conductivity having been created in the surface of said substrate;

creating a first pattern of Local Oxidation of Silicon (LOCOS) regions in the surface of said substrate, said first pattern of LOCOS being interspersed with exposed surface regions of said substrate;

etching said exposed surface regions of said substrate using said first pattern of LOCOS regions as a hard mask, creating a first pattern of elevated LOCOS regions, creating trenches having inside surfaces in the surface of said substrate;

creating a layer of interlayer oxide over the surface of said first pattern of LOCOS regions and said inside surfaces of said trenches created in the surface of said substrate;

depositing a layer of polysilicon over the surface of said layer of interlayer oxide;

patterning and etching said layer of polysilicon, creating a second pattern of polysilicon, the surface of said second pattern of polysilicon comprising at least one contact point over the surface of said substrate.

14. The method of claim 13, said creating a first pattern of Local Oxidation of Silicon (LOCOS) regions in the surface of said substrate comprising the steps of:

depositing a layer of silicon nitride over the surface of said substrate;

patterning and etching said layer of silicon nitride, creating a mask of silicon nitride over the surface of said substrate, elements of said mask being interspersed with exposed surface regions of said substrate;

creating layers of Local Oxidation of Silicon (LOCOS) in said exposed surface regions of said substrate; and

removing said mask of silicon nitride from the surface of said substrate.

15. The method of claim 13, said layer of interlayer oxide being selected from the group consisting of HTO and dry oxide and wet oxide.

16. The method of claim 13, said layer of interlayer oxide being created to a thickness between about 80 and 300 Angstrom.

17. The method of claim 13, said layer of polysilicon being deposited to a thickness within the range of between 1,500 and 6,000 Angstrom.

18. The method of claim 13, said second pattern of polysilicon comprising a square, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising arrays of LOCOS regions

perpendicularly and outwardly extending from each side of said square of said second pattern of polysilicon.

19. The method of claim 13, said second pattern of polysilicon comprising a square, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising arrays of LOCOS regions perpendicularly and inwardly extending from each side of said square of said second pattern of polysilicon.

20. The method of claim 13, said second pattern of polysilicon comprising a square, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising one LOCOS region located at intersection of diagonals of said square of said second pattern of polysilicon.

21. The method of claim 13, said second pattern of polysilicon comprising a square, said second patter of polysilicon further comprising a multiplicity of linear patterns of polysilicon perpendicularly and outwardly extending from each side of said square of said second pattern of polysilicon, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising arrays of LOCOS regions perpendicularly and inwardly extending from each side of said square of said second pattern of polysilicon.

22. The method of claim 13, said second pattern of polysilicon comprising a square, said second patter of polysilicon further comprising a multiplicity of linear patterns of polysilicon perpendicularly and outwardly extending from each side of said square of said second pattern of polysilicon, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising one LOCOS region located at intersection of diagonals of said square of said second pattern of polysilicon.

23. The method of claim 13, whereby said electron charge effect monitoring device can be recycled by applying an additional step of thermally annealing said substrate, thereby thermally annealing said electron charge monitoring device having been created in and on the surface of said substrate.

24. An electron charge effect monitoring device, comprising:

a substrate, a layer of n-type conductivity having been created in the surface of said substrate;

a first pattern of Local Oxidation of Silicon (LOCOS) regions having been created in the surface of said substrate, said first pattern of LOCOS being interspersed with exposed surface regions of said substrate;

said exposed surface regions of said substrate having been etched using said first pattern of LOCOS regions as a hard mask,

creating a first pattern of elevated LOCOS regions, trenches having inside surfaces having been created in the surface of said substrate;

a layer of interlayer oxide deposited over the surface of said first pattern of LOCOS regions and said inside surfaces of said trenches created in the surface of said substrate; and

a layer of polysilicon having been deposited over the surface of said layer of interlayer oxide, said layer of polysilicon having been patterned and etched, creating a second pattern of polysilicon, the surface of said second pattern of polysilicon comprising at least one contact point over the surface of said substrate.

25. The electron charge effect monitoring device of claim 24, said layer of interlayer oxide having been selected from the group consisting of HTO and dry oxide and wet oxide.

26. The electron charge effect monitoring device 24, said layer of interlayer oxide having been created to a thickness between about 80 and 300 Angstrom.

27. The electron charge effect monitoring device of claim 24, said layer of polysilicon having been deposited to a thickness within the range of between 1,500 and 6,000 Angstrom.

28. The electron charge effect monitoring device of claim 24, said second pattern of polysilicon comprising a square, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising arrays of LOCOS regions perpendicularly and outwardly extending from each side of said square of said second pattern of polysilicon.

29. The electron charge effect monitoring device of claim 24, said second pattern of polysilicon comprising a square, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising arrays of LOCOS regions perpendicularly and inwardly extending from each side of said square of said second pattern of polysilicon.

30. The electron charge effect monitoring device of claim 24, said second pattern of polysilicon comprising a square, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising one LOCOS region located at intersection of diagonals of said square of said second pattern of polysilicon.

31. The electron charge effect monitoring device of claim 24, said second pattern of polysilicon comprising a square, said second patter of polysilicon further comprising a multiplicity of linear patterns of polysilicon perpendicularly and outwardly

extending from each side of said square of said second pattern of polysilicon, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising arrays of LOCOS regions perpendicularly and inwardly extending from each side of said square of said second pattern of polysilicon.

32. The electron charge effect monitoring device of claim 24, said second pattern of polysilicon comprising a square, said second patter of polysilicon further comprising a multiplicity of linear patterns of polysilicon perpendicularly and outwardly extending from each side of said square of said second pattern of polysilicon, said first pattern of Local Oxidation of Silicon (LOCOS) regions comprising one LOCOS region located at intersection of diagonals of said square of said second pattern of polysilicon.